

Air Force

SBIR Advantage

Offering a brief look at the vital research and development contributions made by the Small Business Innovation Research (SBIR) Program in direct support of the Air Force mission.

2nd
Quarter
2002

Air Force SBIR Update



SBIR & STTR Outreach

2002 National SBIR/STTR Conferences

March (Completed)
Anaheim, CA

June 11–13
Washington, DC

October 28–31
Burlington, VT

For additional information:
[www.dodsbir.net/
conference/
springconf.htm](http://www.dodsbir.net/conference/springconf.htm)



Stephen Guilfoos
Air Force SBIR
Program Manager

Each year, the Air Force joins with the other federal agencies

to reach out to small businesses that may not have heard about

the Small Business Innovation Research (SBIR) or the Small

Business Technology Transfer Research (STTR) programs.

There are three national conferences held at various locations around the country. This year the three conferences will be at Anaheim, CA in March, Washington, DC in June, and Burlington,

VT in October. These conferences are usually three days and cover a myriad of topics of interest to small businesses.

All the federal agencies participate in these well-attended conferences.

Each federal agency presents basic information on their SBIR and STTR programs. Often there is a session that highlights the differences and

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SBIR Tech Issues

Tech Issues is intended for personnel directly involved in the operation and support of the AF SBIR program.

Air Force SBIR/STTR Web Database Enhancements

In February 2002, the Air Force SBIR Office released a new version of its on-line information management system. These changes were designed to address the need to increase our SBIR Program Managers' abilities to more effectively manage the volume of data maintained and to more efficiently give them the ability to efficiently produce annual reports required by OSD and DoD.

The current SBIR/STTR reauthorization legislation required additional information be gathered, maintained, and reported; these additional requirements were incorporated into the database through some of these enhancements. Key updates include:

- Better query customization
 - Improved control over query and report output
 - New reports to facilitate annual report requirements to DoD
 - Increased validation
 - Prevents addition of funding in excess of Award Amount
 - Prevents erroneous input into "Annual Reported" fields
 - Prevents funding line changes after data has been reported to DoD
 - Requires key data
 - Provides reminders when items require attention (Change in Award Amount, Justification Forms needed, etc.)
 - Improved Data Tracking
 - Automatic monitoring of Award Amount changes
 - Agency Identifier
 - Additional Point of Contact fields
 - Updated Fast Track data collection (follows DoD on-line format)
 - Separation of "Third Party Funding" (vs. SBIR/Mission funding)
 - Additional "notes/comments" fields
 - Access to other directorate's data (read only)
 - Access to SBIR and STTR via one site
 - AD Hoc Report capability
- Near term releases will include:
- The ability to track all Budget Adjustments by directorate
 - Improved Fast Track Reporting capabilities
 - Additional reports to meet a host of requirements
 - Glossary of fields/terms and sample data
- These are the latest improvements to a database that has seen a dramatic increase in required data collection. We are constantly reviewing this database to insure it operates as effectively and efficiently as possible to provide us the ability to comply with all Air Force, OSD and DoD program requirements.

SBIR Facts & Figures

DoD SBIR Woman-owned Business Awards & Dollars

AR Year	Phase 1		Phase 2		Total	
	Awards	Dollars	Awards	Dollars	Awards	Dollars
2000	87	\$7,464,730	58	\$39,529,739	145	\$46,994,469
1999	111	\$9,150,987	43	\$31,087,910	154	\$40,238,897
1998	120	\$10,996,475	63	\$46,913,134	183	\$57,909,609
1997	117	\$10,461,141	58	\$38,114,287	175	\$48,575,428
1996	173	\$14,754,601	50	\$31,280,090	223	\$46,034,691

Air Force SBIR Woman-owned Business Awards & Dollars

AR Year	Phase 1		Phase 2		Total	
	Awards	Dollars	Awards	Dollars	Awards	Dollars
2000	35	\$3,485,095	19	\$13,629,123	54	\$17,114,218
1999	34	\$3,348,049	16	\$11,598,205	50	\$14,946,254
1998	33	\$3,187,215	21	\$15,298,829	54	\$18,486,044
1997	34	\$3,384,055	25	\$17,983,134	59	\$21,367,189
1996	38	\$3,613,365	17	\$12,210,243	55	\$15,823,608

DoD SBIR Minority-owned Business Awards & Dollars

AR Year	Phase 1		Phase 2		Total	
	Awards	Dollars	Awards	Dollars	Awards	Dollars
2000	119	\$9,900,613	68	\$46,602,847	187	\$56,503,460
1999	169	\$14,645,580	72	\$52,780,094	241	\$67,425,674
1998	147	\$12,810,915	106	\$79,387,553	253	\$92,198,468
1997	176	\$15,639,057	117	\$82,442,152	293	\$98,081,209
1996	253	\$21,297,578	85	\$53,878,880	338	\$75,176,458

Air Force SBIR Minority-owned Business Awards & Dollars

AR Year	Phase 1		Phase 2		Total	
	Awards	Dollars	Awards	Dollars	Awards	Dollars
2000	45	\$4,442,410	28	\$19,885,224	73	\$24,327,634
1999	67	\$6,667,963	25	\$19,464,045	92	\$26,132,008
1998	39	\$3,793,870	38	\$27,628,221	77	\$31,422,091
1997	54	\$5,290,497	37	\$27,139,838	91	\$32,430,335
1996	23	\$2,171,008	37	\$25,338,193	60	\$27,509,201

Note: Minority and woman-owned business data cannot be easily summed due to problems of double counting. While the number of phase I awards to these firms has been going down so has the number of proposals submitted. The actual money (Phases I and II) awarded to minority- and woman-owned firms over the last five years has consistently been around 20% of the total awarded. Source: DoD Database.

AF SBIR Impact

3D Visualization Analyzer

Air Force Requirement

Today's Air Force weapon systems and engagement doctrine are highly complex. The process of developing and evaluating these systems includes data collection, end-game results, and the use of two dimension (2-D) graphs. The Air Force wanted to develop a new tool that would provide the developer with enhanced capabilities for evaluating these systems as a single entity rather than a collection of separate data points. This new format would allow consolidation of all available kinematic information into a single presentation of information while reducing the need for professional manpower to evaluate the engineering data.

SBIR Technology:

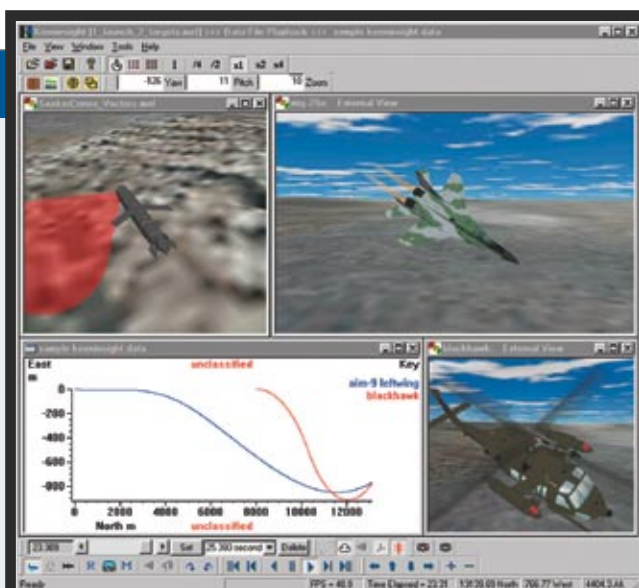
FAAC Incorporated delivered a novel 3-D visualization analyzer to the Munitions Directorate under an Air Force Phase II SBIR contract. The 3-D visualization analyzer, known as KeenInsight™, has successfully brought 3-D visualization to desktop Window PCs. It creates realistic flyout visualizations using current PC graphics hardware.

Air Force Payoff

This SBIR award directly enhanced Air Force weapon system analysis capability. KeenInsight™ gave the creators of munition flyout simulations the ability to quickly create 3-D visualizations on their desktop PCs. Evaluation has shown 3-D visualization is useful for three phases of the flyout simulation process: 1) test/debug, 2) analysis, and 3) presentation. KeenInsight™ utilizes information produced off-line (by engineering simulations or other suitable sources) to provide a graphical interactive depiction of real world engagements involving three-dimensional entities representing launchers, weapons, and targets. The hardware required to operate KeenInsight™ is affordable and commonly available in today's desktop PCs.

Technology Transfer/Commercialization

FAAC has been successful in transitioning derivatives of technological advancements to both the Department of Defense (DoD) and the private sector. Additional investments have been made by FAAC Inc., as



KeenInsight is the Air Forces next generation tool for visualizing complex, simulation kinematic data on the PC, with the added bonus that it is free to all US government agencies. With KeenInsight, the user can quickly and easily consolidate all kinematics information into a single presentation from the convenience of his/her desk.

other sources have taken the graphics technology originally developed for KeenInsight™ and applied it to the vehicle driver training simulator market. PC image generator components, have been integrated as part of the United States Marine Corps (USMC) Medium Tactical Vehicle Replacement-Training System (MTVR-TS). FAAC is also integrating the PC graphics technology into the multi-spectral man-in-the-loop cockpit simulator being developed for the Guided Weapon Evaluation Facility (GWEF) at Eglin Air Force Base.

SBIR Partner

FAAC Incorporated
Ann Arbor, MI

Employees:

55



"With the increased power of personal computers, the Air Force has moved its weapons modeling and simulation environment from expensive, high-end machines to the inexpensive, tabletop PC. Interpreting the raw data from digital computer simulations has been a fine art for the engineer, but with 3D visualization, the task is as easy as hitting the "go" button and watching the weapon fly."

Project Officer:
Michael Vanden-Heuvel,
AFRL Munitions Directorate,
Eglin AFB, FL

Air Force SBIR Update

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Air Force

www.afrl.af.mil/sbir

Army

www.aro.army.mil/arrowash/rt/sbir/sbir

Navy

www.navysbir.brtrc.com/

DARPA

www.darpa.mil/sbir/

Missile Defense Agency

www.winbmdo.com/

Special Operations Command

<http://soal.socom.mil/index.cfm?page=sadbu&sb=sbir>

Defense Threat Reduction Agency

www.dtra.mil/acq/business/acq%5Fsmallbus.html

National Imaging and Mapping Agency

www.nima.mil/poc/contracts/sbir/sbir.html

Department of Defense

www.acq.osd.mil/sadbu/sbir/

Small Business Administration

www.sbaonline.sba.gov/SBIR/

NASA

<http://sbir.hq.nasa.gov/>

Department of Energy

<http://sbir.er.doe.gov/sbir/>

National Science Foundation

www.eng.nsf.gov/sbir/

Environmental Protection Agency

<http://es.epa.gov/ncer/sbir/>

National Institutes of Health

<http://grants2.nih.gov/grants/funding/sbir.htm>

US Department of Agriculture

[/www.reeusda.gov/sbir/](http://www.reeusda.gov/sbir/)

Department of Education

www.ed.gov/offices/OERI/SBIR/

Department of Transportation

www.volpe.dot.gov/sbir/index.html

commonalities between the programs. Conference organizers always set aside ample time for small businesses to sit down one-on-one with representatives from the federal agencies to discuss their technologies and their potential applicability to the agency. For additional information on these conferences, please visit the conference web site, www.zyn.com/sbir.

Various states and other business development groups hold local outreach conferences. These conferences are usually one or two day gatherings for local small businesses. This is an excellent opportunity for small businesses that have never participated in prior SBIR or STTR programs to learn about the programs first hand.

At most of the national, regional, and state conferences, there is a session on how to write winning SBIR and STTR proposals. There are a handful of companies who offer

this service and some of them hold stand-alone sessions all around the country. These are excellent opportunities for companies who have never participated in the program.

All the federal agencies maintain web sites to help educate and inform small businesses about their SBIR and STTR programs.



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The goal of the Air Force SBIR Program is to serve the technology needs of Air Force warfighters. It accomplishes its mission as part of the Air Force Research Laboratory's (AFRL) integrated research and development (R&D) team. AFRL's mission is leading the discovery, development, and integration of affordable warfighting technologies for our aerospace forces.

SBIR Advantage is published quarterly by the Air Force SBIR Program office. This publication offers an overview of AF SBIR issues and information. The purpose of *SBIR Advantage* is to provide Air Force, DoD, and other government leadership with additional insight into the vital contributions made by the SBIR program to Air Force R&D.

SBIR Advantage is available online at: www.afri.af.mil/sbir

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